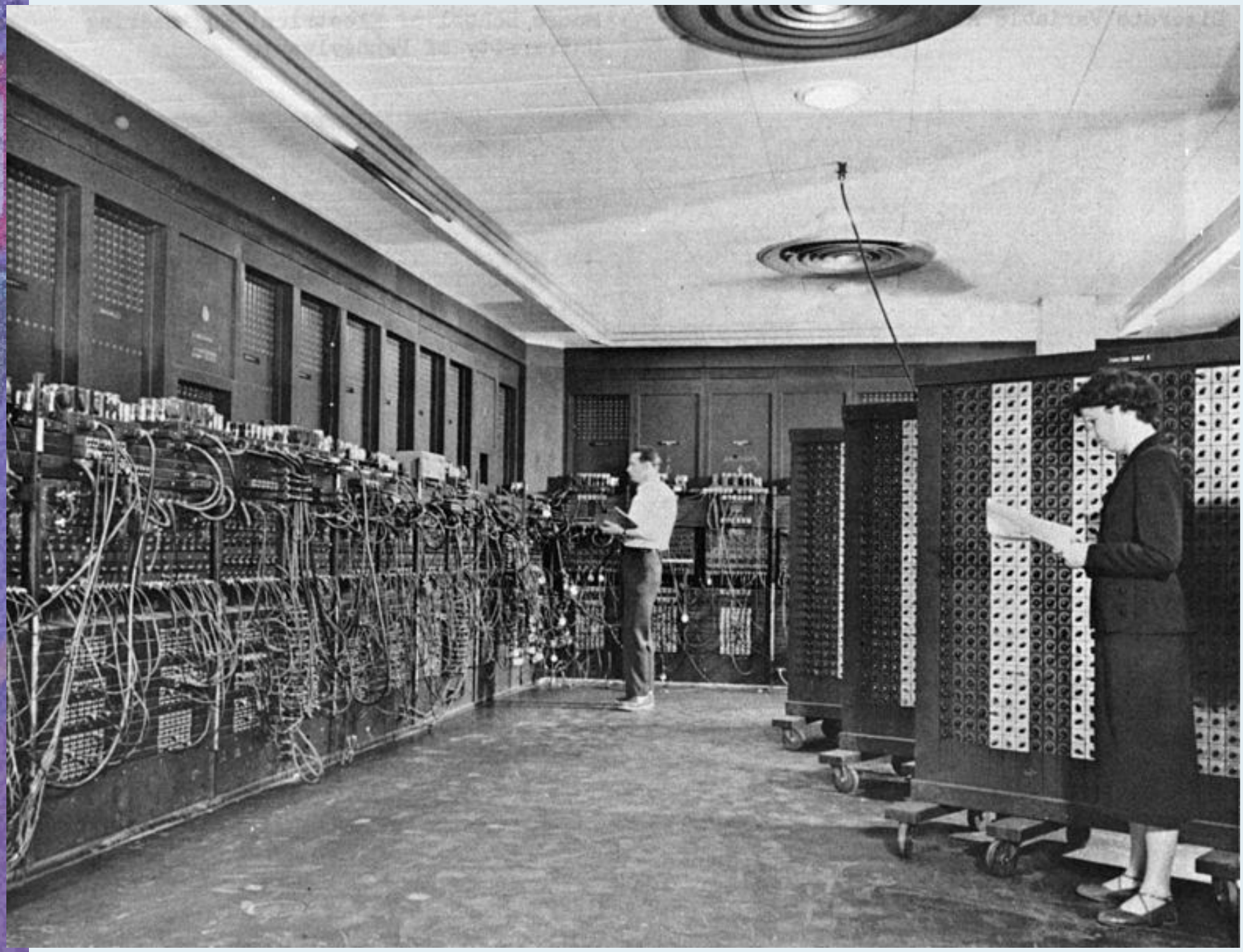
Computing History Milestones

1946	ENIAC first large-scale electronic computer
1951	Univac one of the first commercial computers
1963	Computer mouse developed 
1965	Minicomputers
1977	Apple PCs introduced
1981	IBM PCs introduced



Computing History Milestones

1983	Notebook computers introduced
1984	Macintosh computers introduced Mouse and icons became important tools
1991	World Wide Web was developed Internet use began to grow rapidly
1993	PDAs (handheld computers) introduced
2001	Tablet PCs introduced
Present	Handheld computers, smart phones, and other computers are becoming smaller and more powerful

The PC Race

- The space industry's need for computers led to
  - Smaller computers
  - Faster computers
  - More powerful computers
  - Computers in common devices

Flat Screen TV

20 years later and all of these things fit in your pocket.

Communicating with Computers

How do you use the computer to communicate?

Personal Computer

- A small computer designed for an individual user
- Examples
  - Desktop model
  - Laptop
  - Tablet PC
  - Others?

Other types of Computers

- Supercomputers: Process very large amounts of information (1 quadrillion mathematical computations per second)
  - Predicts weather such as hurricanes
  - Military
  - Doplar
- Mainframes
  - Used by government, businesses, and researchers to process very large amounts of information.
- Microprocessor
  - A silicon chip that contains a CPU. Control the logic to almost all digital devices

Network

- Computers linked to one another form a network
  - The Internet is a worldwide network

- LAN – Local Area Network. Network of computers covering a small area.
  - Home, office, school
- WAN – Wide Area Network.

Network of computers covering a broad area (National, International)

Hardware: the physical parts of a computer or device

Software: programs that give instructions to the computer or device

2 Types of Software:

1. Operating system software

2. Application programs

Operating System Software

- **Runs the basic operations of the computer**
  - Most important software on a computer
  - Controls the hardware
  - Makes running other types of software possible
  - Gives important messages about the computer
  - Ex: Microsoft Windows XP, Windows 7, etc.

Microsoft Windows

- Provides ready made solutions that can be used by just about everyone
- Almost 100% compatible with any file or document created in America
- Not always as stable as Apple (OS X)
- 95% of viruses come from computers using Windows or Microsoft

Recent Versions of Microsoft Windows (since 1995)

- Windows 95
- Windows 98
- Windows 2000
- Windows XP
- Windows Vista
- Windows 7
- Windows 8

OS X (Apple)

- Mac OS is the only commercial operating system that is custom-made to work with Apple's hardware. This gives it a level of efficiency, power, and stability, which is most important for the workplace.
- Mac OS X is still the operating system of choice for graphic artists, designers and most others who work with visual and audio media. It also synchronizes user information well across multiple Apple devices
- Apple computers simply cost much more than your average PC. This is offset somewhat by those computers' durability
- Virtually virus free

Recent Versions of OS X (since 2001)

- Jaguar
- Panther
- Tiger
- Leopard
- Snow Leopard
- Lion
- Mountain Lion
- Mavericks

Apple Operating System
(iPhone, iPad, iPad mini, Apple TV, iPod)

- iOS (from OS X)
- 900,000 Apps available
- 300,000 Apps for iPad
- Collectively downloaded >50Billion times
- Interface uses multi-touch gestures
- iOS 4 – iOS 7

Linux

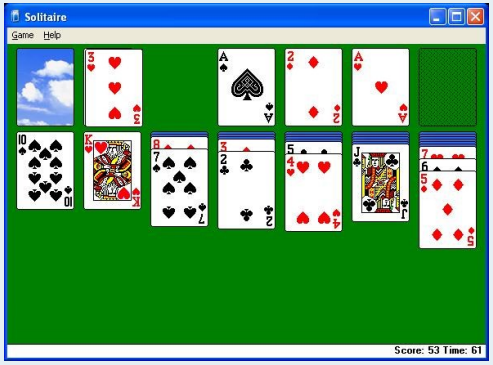
- Free
- Easy to update and install
- Easy to update many computers over a single network in a matter of minutes
- Highly customizable
- Users are often scared at first to use it

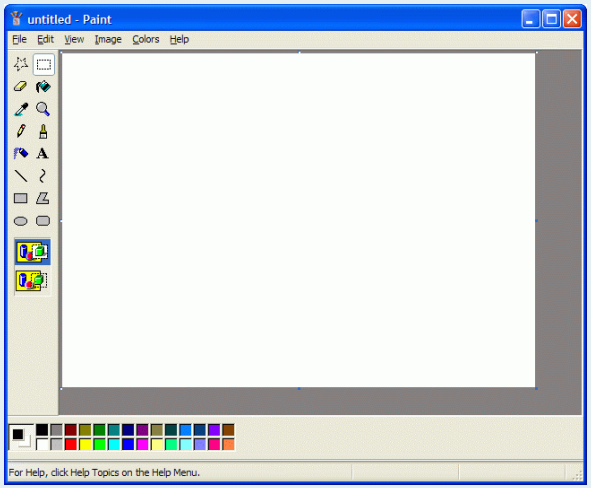
Android Operating System

- Linux based operating system
- Google financed and later bought
- Open source code which allows software to be freely modified and distributed
- 700,000 Apps with 48 Billon Downloaded
- Cupcake, Donut, Éclair, Froyo, Gingerbread, Honeycomb, Ice Cream Sandwich, Jelly Bean

Application Software

- Software that helps users perform tasks





5 steps to Information Processing

1. Input
2. Processing
3. Distribution
4. Output
5. Storage

INPUT

- **To give** data to the computer

PROCESSING & DISTRIBUTION

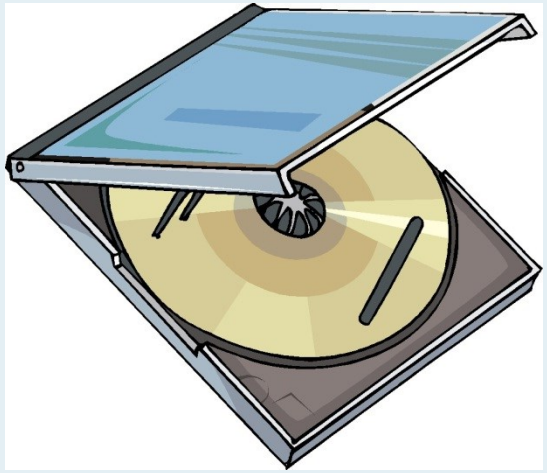
- Processing:
  - **To change** or use data
- Distribution:
  - **To send** data to the location that needs it.

OUTPUT

- **To receive** information from the computer.

STORAGE

- **To save** data for a later use.



Information Processing Recap

- **Input**: To give
- **Processing**: To change or use
- **Distribution**: To send
- **Output**: To receive
- **Storage**: To save

On your paper…..

Input

Processing

Output

Distribution

Storage

Binary Code

- Base 2 number system
- Made up of 1’s and 0’s
- The “language” of the computer

ASCII Code: Character to Binary

0	0011 0000	O	0100 1111	m	0110 1101
1	0011 0001	P	0101 0000	n	0110 1110
2	0011 0010	Q	0101 0001	o	0110 1111
3	0011 0011	R	0101 0010	p	0111 0000
4	0011 0100	S	0101 0011	q	0111 0001
5	0011 0101	T	0101 0100	r	0111 0010
6	0011 0110	U	0101 0101	s	0111 0011
7	0011 0111	V	0101 0110	t	0111 0100
8	0011 1000	W	0101 0111	u	0111 0101
9	0011 1001	X	0101 1000	v	0111 0110
A	0100 0001	Y	0101 1001	w	0111 0111
B	0100 0010	Z	0101 1010	x	0111 1000
C	0100 0011	a	0110 0001	y	0111 1001
D	0100 0100	b	0110 0010	z	0111 1010
E	0100 0101	c	0110 0011	.	0010 1110
F	0100 0110	d	0110 0100	,	0010 0111
G	0100 0111	e	0110 0101	:	0011 1010
H	0100 1000	f	0110 0110	;	0011 1011
I	0100 1001	g	0110 0111	?	0011 1111
J	0100 1010	h	0110 1000	!	0010 0001
K	0100 1011	I	0110 1001	'	0010 1100
L	0100 1100	j	0110 1010	"	0010 0010
M	0100 1101	k	0110 1011	(	0010 1000
N	0100 1110	l	0110 1100	)	0010 1001
				space	0010 0000

Peripherals

- Devices that can work with your computer to give it a broader function.
- Examples
  - Printers
  - Digital tablets
  - Scanners
  - Digital cameras

Computer

A machine or device that follows a set of instructions to change or store data.